AMERICAN BEE JOURNAL

JOYCE JIVIDEN
New York Honey Queen

Vol. 96 No. 10 OCTOBER 1956

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THE
AMERICAN BEE JOURNAL
HAMILTON, ILLINOIS

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Editor—G. H. Cale
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AD INDEX

The Business Beekeeper

What The Soil Bank Means To Beekeepers

Melvin Gehlbach of Lincoln, Illinois, is the originator of the Soil Bank plan although the plan as it has finally been adopted differs from his original conception. The pie-plate graphs from Dick Albrecht, Livestock Editor of Prairie Farmer, illustrate Gehlbach's idea of the effect of the plan in practice as he conceived it.

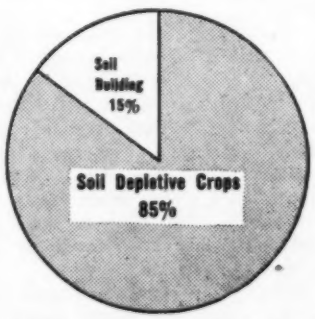
At the annual meeting of the Illinois Association last November he gave an exciting and graphic account of the Soil Bank and what it may mean to beekeepers. There are two parts to the final plan approved and adopted by the Department of Agriculture: acreage reserve and conservation reserve. Acreage reserve is a temporary expedient to reduce and control surplus production. Conservation reserve subsidizes the farmer for taking land out of cash crop production and putting the land into grass and legume management for a period ranging from three to ten years. The farmer will get what it costs to establish grasses, legumes or trees and an annual payment to keep the land out of production. The growing of legumes is not mandatory but most of the seedings will be mixtures of grasses and legumes. Clovers are being named with the grasses for soil bank plantings.

Under the acreage reserve there are about 6,000,000 acres now and the total is expected to increase steadily. The conservation reserve is barely started but will be in full swing next year. There is a practical limit to it because of the supply of seed. Legume seed is 11 percent below the 1949-1953 average. Additional seed will be needed and beekeepers in seed producing areas should benefit. Conservation acres must be left unharvested and without grazing for a period of years. It is hoped that the conservation plan will shift some 25,000,000 acres into mixed grasses and legumes or into tree plantings.

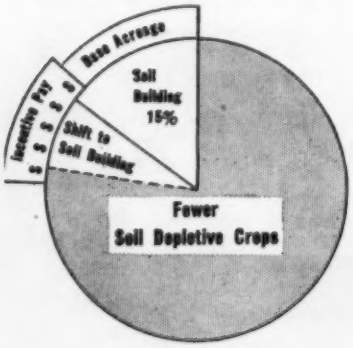
The soil bank will hold back land for future production at any time it is needed. It won't end price support altogether or other acreage controls. The cost of it is a problem. It may be the government won't have the money for an all out application of the plan and it may be that the farmers may not be able to get the seed they need for it.

However the use of legumes should be of considerable benefit to beekeepers near soil bank reserve acres.

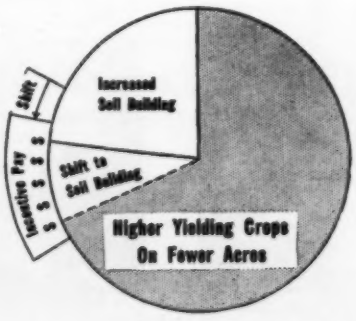
Secretary Benson defines the Soil Bank as a "program under which farmers can take out of production acres that are not needed in production right now while protected by government payments against loss of income." Despite the late start of the Soil Bank program, over half a million farmers have signed up more than 12 million acres and total payments can amount to nearly $261,000,000 for the 1956 program.



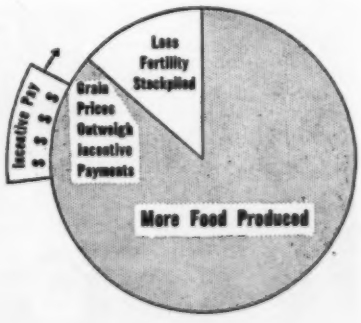
When prices decline farmers still plant full acreages to try to pay costs.



The Soil Bank will try to make it profitable to shift low-yield acres to soil building acres and so reduce total production and increase prices.



As per acre yields increase, incentive payments can be shifted to more and more soil building acres—each time reducing operation costs.



Higher prices would permit farmers to use banked fertility to produce needed food. As production adjusts we would have a program to keep prices from going too low.

One Man Commercial Beekeeping

PART II *by* **Bruce Morehouse**

Last month we dealt with the number of colonies, apiary locations and overwintering. Let us now examine other things, including the sales problem.

For instance, standard equipment. It is unhandy to have more than one kind of hive body in an apiary. Eight-frame hives mixed in with 10's just do not fit. Standardized equipment makes for a saving of handling and time. Food chambers may be of different depth, and in fact this distinguishes them and is not objectionable. If 10-frame supers are used, one or two 6-⅝ inch deep bodies, as the region may require, make suitable food chambers. However in colony manipulations it is nice to have supers and brood bodies of the same size.

When do you need a hive record? Well, certainly when you stand beside a hive ready for an operation. Is that the time to get out the "little black book" (if you did not forget it!!), thumb through the pages to No. 13, for the case history? Maybe so if 13 colonies are all you have. To make each colony history always available and quickly seen, when needed, we recommend a card for each colony, thumb-tacked to the inner cover. (Our inner covers are solid; no holes). On this card is all pertinent information, colony number, status of the queen, dates of colony operations, and boxes of honey produced. The colony history is in mind at a glance when you insert the hive tool.

Years back when we did not have such effective control of American foulbrood, we took to numbering each hive and the supers that belonged to each hive, to correspond. Then if a few cells of disease were found in a hive we could trace every super belonging to that hive. We continue this numbering for another reason: one of the three supers has selected brood combs, to be used as a second brood body, or for Demaree purposes.

Before any honey is taken off we see that all super numbers correspond to the number of the hive, marked in lead pencil. Take 345, the first number designates the yard, the second number the group in that yard, and the third number the hive in that group. So, in the spring the 345 supers will be taken to that particular colony, stacked over the inner cover, and so be available as needed. In that way no colonies get all the best combs and other colonies all poor combs.

Usually there are inclement spring days when a jar of sugar syrup will keep the colony on the build up. Also, as a preventive measure, and a further stimulant, sulfathiazole is added. Many commercial beekeepers have testified to the beneficial effects of this practice. Other drugs are in use for various bee diseases, and the beekeeping magazines keep us informed of their use.

The arrangement of equipment in a central extracting plant should be well thought out, from warming room to the final container. One must be his own efficiency engineer, using motors, steam and approved extracting equipment, so that the process will move along smoothly. Cleanliness is a must.

The recommended truck would be a 1-ton job, with a low platform so that one need not lift heavy supers above the carrying position. If a step arrangement can be made so that a super may be carried from the hive right up to its place on the truck, so much the better. There are times when a rack arrangement for carrying a good load of empties is handy.

Selling Honey in Bulk

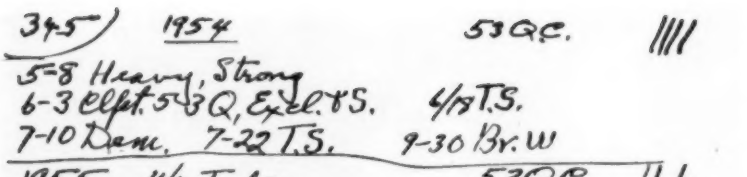
Producing a honey crop is one thing; selling it at a profit is something else. If anybody (or a concern) takes over in the sales effort, they must be paid somehow. Since the money income must last a year anyway, we like to sell the crop during the slack season for bee operations. Usually, we have received a little better price then. Figuring ahead we like to sell with an exchange of containers for the upcoming crop.

There is a lesser product, beeswax, which currently sells between 50c and 60c per pound, and the one man commercial beekeeper may expect from 400 to 600 lbs. yearly. In some locations the beekeeper may rent out bees to pollenize fruit, melons, or other crops, but here in Minnesota there is very little income from this source.

Back in the '30s we sold bulk honey at 5c a pound that the Government figured it cost 11c a pound to produce. The profit on bulk honey in

Up the steps into the truck bed.

Down the steps to the ground.



Morehouse record card. Can you make it out? It's easy.

1955 was not big, but the outlook for years to come is comparable to many other commodities. There are some encouraging things to consider that did not exist 30 years ago. The scourge of bee disease is not a crippling threat. There is the American Beekeeping Federation through which we may unitedly speak to the public and our Government. There is an American Honey Institute to carry our message to consumers. There are efforts afoot to find new uses for honey and so secure a more stable market. Beekeeping equipment, and honey processing, are steadily improving. Bee breeders are offering better bees and queens.

Our growing population, of about 2,500,000 people this year, insures an increased demand for foodstuffs. Fortunately, too, Mrs. American Consumer has considerable money in her purse, and she is willing to spend it for foods that take her fancy. This does not mean she will buy more honey. There is fierce and intense competition with other sweets. Aggressive selling, hitched to sound planning and display is needed to meet this tough bid for sales. A move in the right direction is the use of our centrally prepared display material for National Honey Week. Grocers are glad to cooperate with local beekeepers, when the display is good. Every beekeeper owes to the whole some effort along this sales line.

During the next 10 years we have promised that our foreign markets for bulk honey will be as accessible as the St. Lawrence Seaway. Cities along this waterway will become world export points for honey buyers, as well as many other products and industries. This increased urban population will consume large amounts of honey, and honey products.

Conclusion

Although some vocations promise larger financial returns, a man must always consider his own background, abilities, and inclinations, to make a wise decision. He may like to belong to this beekeeping fraternity, to meet socially, even competitively, and unitedly in an effort to work out common problems, rather than to be tied to a better-pay job he does not like. There is something rewarding in producing tons of honey for the enjoyment of one's fellow men, that otherwise would have been ungathered. It is worth considerable to some men to be their own boss, running their own business, even if it means much more work. There are those men who hanker for an outdoor life, and certainly beekeeping is one close to nature and God's creatures.

There is a free, spiritual atmosphere to a beekeeper's life that none but the true ones know. Yes, there is a place in the next 30 years for the one man commercial beekeeper, who is content with a modest income, and the additional rewards that it brings.

Minnesota

The Makers of Honey

by Mary Geissler Phillips

The Thomas Y. Crowell Co. of New York City have just issued a new book with the above title, authored by Mary Geissler Phillips, who was also the author of "Honey Bees and Fairy Dust" a number of years ago.

Mrs. Phillips will be remembered as the widow of the late Dr. E. F. Phillips for years head of the Bee Culture Laboratory of U.S.D.A. and later Head of the Department of Beekeeping at Cornell University, to whom the book is dedicated.

"The Makers of Honey" is a very delightfully written book of 160 pages, cloth bound, and the contents of such nature that it will interest the layman as well as the beekeeper.

The 16 chapters treat of bees of long ago, of the intimates of the hive, family life, development of drone, queen and worker, comb-building, field workers, plants and nectar gathering, language of the bees etc. with some very fine line drawings as illustrations.

We can recommend the book as a nice gift to a friend or member of the family as well as an addition to any library. The price of the book is $2.50 and it may be obtained through the usual book trade channels. The American Bee Journal has stocked these books at the price above quoted for the convenience of its readers.

"Bees in Every Blooming Thing"

That's the title of an article in the Texas and Pacific Railway magazine, "Topics," for June sent to us by Erwin Glew, manager of the Paris Branch of Dadant & Sons, Inc. Nicely written, three pages, good pictures. It reports honey production in Texas at 12,000,000 pounds in 1955, which, with the beeswax, came to around a $2,000,000 farm crop. The article tells about the Branch in Paris. Most of the story is about the usual life history and behavior of the honey bee. It ends with a quote from C. B. Senter, T&P agricultural agent: "Pollination is just as important as tilling the soil and cultivating the crops and nothing has been invented that can do this pollinating job like the humble honey bee."

Manitoba Registration

All beekeepers in Manitoba are required to register annually with the Provincial Apiarist before June 30th and pay a registration fee of $1.00 per apiary. Application forms are sent out in May. The land location of all apiaries must be shown on the registration form. Registration gives an automatic covering permit for the movement of hives and equipment from one yard to another and between the yards and the extracting plant. If, after registration, it is desired to move a yard to a location not registered, a permit must be applied for. A permit is required also for the sale of bees and equipment. Write to D. R. Robertson, Provincial Apiarist, 153 Legislative Building, Winnipeg.

Who Is A Commercial Beekeeper?

Joe Wanty Is

Accountant Joe Wanty of Socony Oil Company's Trenton, Michigan, refinery has been keeping bees for seventeen years and finds this side business pays. He is a real commercial beekeeper with 200 colonies.

In the winter edition of "The Flying Red Horse" published for employees, stockholders and others interested in the Socony Mobil Oil Company is the story of "Joe Wanty's 19 Million Employees." Earl W. Wanty (known as Joe for no good reason) has worked in the Socony Mobil Oil Company refinery at Trenton, Michigan, for seventeen years, the last seven as an accountant. Victor H. Peterson, of Socony, sent the story and a copy of the magazine thinking it might interest others who keep bees and who also are industry employees. For Joe is truly an able commerical operator with 250 colonies in six locations.

Most of the story has to do with the usual interesting social life of the bees but there is enough about Wanty's operations to give us a good idea of him and how he manages his bees.

He started dabbling with bees about the time he joined the company. His brother and uncle each had a number of colonies and Joe thought beekeeping looked interesting. He says: "I think it's important to have some real interest outside the job. And if you can make a little extra money doing something you enjoy so much the better. I figure that when I retire beekeeping will give me a lot of fun and bring in additional income for travelling or whatever my wife and I want to do."

In his Michigan locations Wanty extracts his full combs twice a year and replaces them on the bees. He trucks his honey to an extracting plant behind his home and there his wife takes over. She is in charge of extracting the honey and has a part-time helper, usually a local high school boy.

The honey is put into 60 pound cans and most of it is sold to commercial bottlers. His crops vary between 10 and 15 tons of honey a year, at present worth 14 cents a

Mr. and Mrs. Wanty built this new home in 1952. They have ten acres, partly wooded, with a brook. Mrs. Wanty cooks with honey and has collected hundred of recipes.

Wanty delivers filled supers to the extracting house behind his home. His wife, Violet, is in charge of extracting. Part time helper, Glen Bergmooser, uncaps.

Joe in the true garb of the experienced beekeeper works his bees.

Honey is bulked in sixties. In his best year he sold over 20 tons.

pound wholesale. With the help of E. H. Potthoff, head of the laboratory at the Trenton refinery, Wanty developed a process for decolorizing the dark honey so it is about the same as the lighter honey. It was costly however so they gave it up.

Joe and Violet Wanty are great honey promotors and they are 100 percent sold on the advantages of using it in their own kitchen.

The Wantys put a lot of hard work on their honey business but they enjoy it and they have more to show for their efforts than just a little extra spending money. In 1952 they built a new home on ten acres of property in Carleton, a small country town a few miles from the refinery. A stream runs through the land and Joe pumps water from it to keep his lawn in shape. Violet does the mowing on a small sit-down power mower.

So the Wantys are representative of today's one-man commercial beekeepers who are succeeding when often the big outfit falls of its own weight. Small wonder Joe does not mind getting stung now and then.

Ancient Greeks and Their "Movable" Frame

With a Greek beekeeper, Mr. Pan D. Georgandas, Director of Agriculture of Greece, at right, is examining a comb attached to a movable top bar. The ancient Greeks must be credited with having invented the first movable frame because beekeeping methods of this kind apparently were practiced as early as the days of Aristotle. —Roy Grout

Paterson's Curse

When Eastley and Carleton were here from Australia, mention was made of Paterson's Curse or Salvation Jane which is spreading extensively in South Australia. It is a good honey plant but new to our knowledge of the honey plants of the world.

Australian Honey Festival

Each year Australia has a Honey Festival to create interest in honey. Honey packers have the chance to display their wares in Sydney for a two week period. The purpose is publicity but they think it worth the cost.

A New Word—"Decks"

In the Australasian Beekeeper (Jan. 15) is an advertisement by H. A. Miller, offering bees for sale. "250 colonies, all 2 and 3 *decks*." We say "2 or 3 *stories*." Their term, decks, seems quite interesting and maybe worth using.

More Favorite Honey Recipes

Our September number reviewed the new booklet just issued by the American Honey Institute "More Favorite Honey Recipes." The booklet of 68 pages supplements the previous books "Old Favorite" and "New Favorite" Honey Recipes.

We recommend this new book most highly. Finely gotten up by Mrs. Grace and her staff and with a fine lot of illustrations, the booklet has been kept within a very reasonable price range, 25c for an individual book or $19.00 per hundred. Pass some out to your customer friends. The booklet would make a very desirable Christmas gift to which might be added a bright decorated envelope. Orders for the booklet should be addressed to the American Honey Institute at Madison, Wis.

Seed Forecasts

Indications are, according to the U. S. Department of Agriculture Marketing Service, that the 1956 crop of Ladino and white clover seed will be slightly in excess of last year. On the other hand, the alsike clover seed crop will be the smallest on record, totaling less than 10 million pounds.

More Research On Royal Jelly

In "L'Apiculteur" (France) for July-August Messrs. Chauvin and Loveaux give a report of their experiments at the Research station in Bures-sur-Yvette on Royal Jelly.

Hundreds of samples were examined microscopically with the object, perhaps, of being able to set standards both for the pharmacists who handle the product and for the beekeepers who produce it.

They found great diversity in the samples drawn from various sources and various locations. The variation was not only in the varying amount of pollens included but also in the actual cleanliness of the jelly—foreign substances such as parts of the bees anatomy etc. being included especially by some of the less well equipped producers.

It is their hope to be able to set standards for royal jelly entering into trade channels.

Ammonium Nitrate — Laughing Gas

The ammonium nitrate I use is in pellet form as used by farmers. You can also get it from drug stores in the pure crystal form. The former costs 5 cents per pound; the pure crystals are higher. But you do not have to use so much of it.

I use burlap for fuel but anything will do. Get a good smoke going, leaving some space in your smoker. If your fuel is burning all the way to the top it is better to add a little more. Then add about one tablespoonful of the pellets (less of the crystals) on this fresh fuel and cover it lightly with some more fuel or anything to keep from blowing crystals out of the spout. Make this preparation just before opening your hive; if you do it sooner be careful and not work your smoker bellows as you would lose your gas. Sometimes one puff or so will be sufficient, depending upon how much fire you have. You will soon learn the proper amount to use. If you give enough the bees will look like they are dead but they will come to in thirty minutes or less, depending upon weather and ventilation conditions. If bees are working freely you will have to give a puff now and then to quiet the incoming field bees. Altho one dose will seldom put more than one colony to sleep it will last quite a while and you can soothe the temperaments of several colonies as a rule.

L. R. Stewart
Newport, Ind.

Fried Young Bees—an Adventure in Eating

Williams Stevens, Assistant Managing Editor of the Saturday Evening Post, sends us an article from that magazine by Joseph Alsop, "My Adventures in Eating," in which the author states that fried young bees are about halfway between pork cracklings and wild honey in taste. He also credits newborn rats like pink shrimps with a taste like nothing on earth and sauteed silkworms like cashew nuts. The fried bees, he says, are a customary appetizer at Akahane, a Tokyo restaurant, which is an especially rewarding eating place. He says: "After the first mild shiver of recognition I really enjoyed the bees which are a peasant dish. The country children make a game of finding the wild colonies; their families pick the young from the comb, fry them and put them down in crocks and this strange preserve helps to satisfy the fat-and-protein hunger so common among the poorer Japanese." The entire article is fascinating and opens the door on some very different and very glamorous eating. It particularly eulogizes Umeko Akahane's restaurant which, through his eyes, becomes a must for all visitors to Japan.

Diamond Match Moves

The Apiary Department of the Diamond Match Company, its Los Angeles branch, announces a move from its old location to more modern and more easily available quarters at 2300 South Saybrook, Ave., Los Angeles 23.

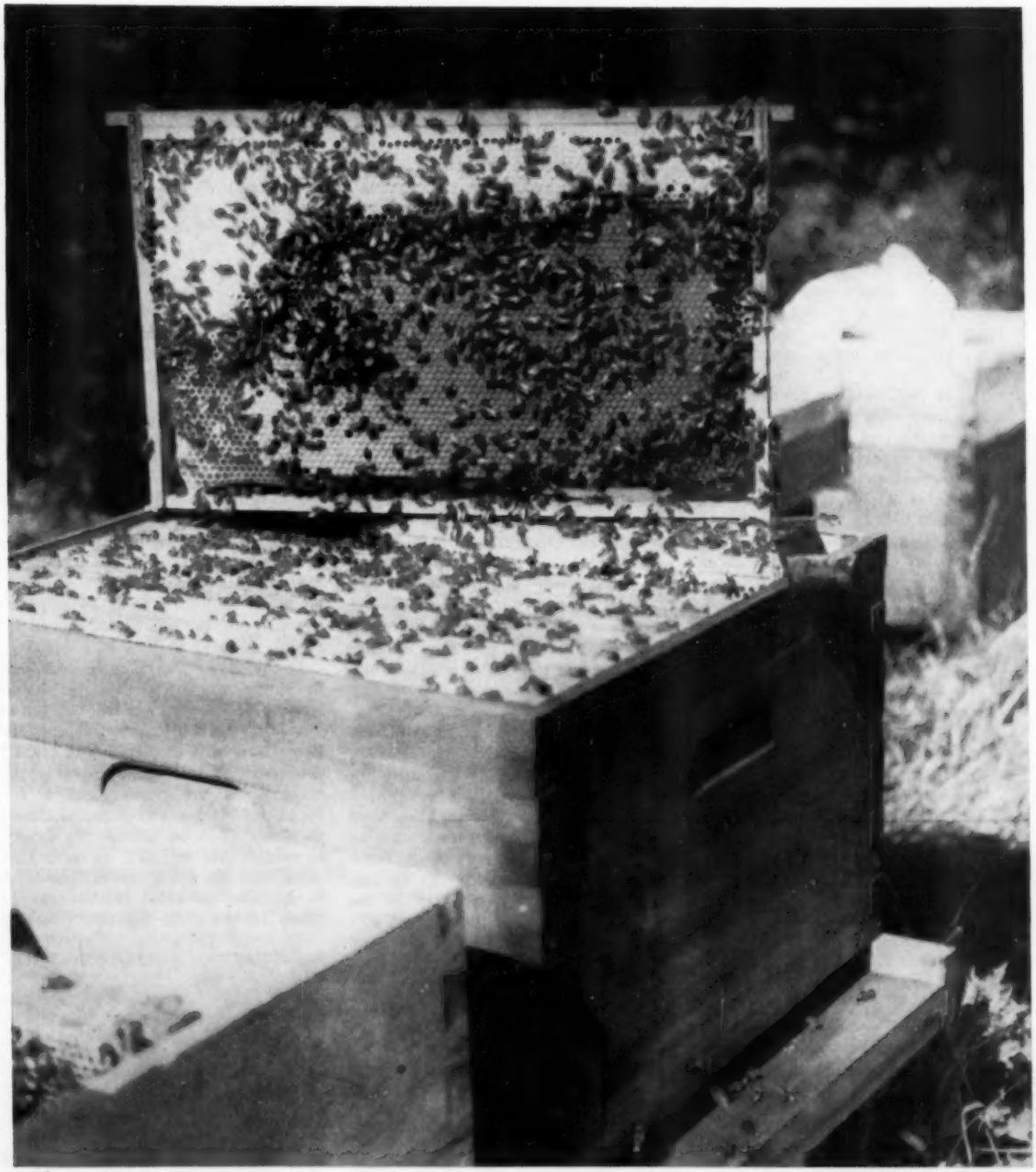
Death From Stings

Arthur L. Hamm, 34, of North Kenova, Ohio, died July 8 after being stung many times by honey bees. He was transferring the bees from one hive to another. He tried unsuccessfully to escape by lying in a shallow pool of water.

Our Cover Picture

New York State Honey Queen, JOYCE JIVIDEN

Our cover picture is a portrait of Joyce Jividen, New York State's Honey Queen for 1955. She was selected by the State Beekeepers' Association. She is a petite young lady 5 feet 1 inch high with a weight of only 106 pounds; hair chestnut brown and eyes deep blue. She is nineteen years old and has lived most of her life in Williamsville, New York. She is quite familiar with beekeeping as an occupation as the family at one time was engaged in migratory beekeeping. So Joyce received a portion of her primary education in Florida. The Amherst Apiaries, owned by her father Millard and grandfather Ernst Frederick, were at one time the largest in Erie County. She helped in honey extracting and setting up supplies and honey selling. Shortly after being chosen Honey Queen she had the honor of presenting Governor Harriman with the first two tickets to the State Fair in Syracuse and she gave him a sample of local honey. She was in the Queen Court of Honor that officially opened the Fair. All the Queens of the Court were introduced at a fashion show followed by a Queens' Tea. Joyce attends Alfred University as a scholarship student and she is in her Junior year, majoring in biology to become a medical technologist. She is a member of Sigma Chi Nu Sorority, Treasurer of Alpha Lambda Delta, national scholarship society; belongs to the women's volleyball team, and was featured as sponsor of the R.O.T.C. unit at the University. The State Association presented her with an inscribed compact as a memoir of her reign as Honey Queen.



In The Pink For Winter

Winter has always been one of the most worrysome parts of the season and the part about which for many years we knew the least. Whether or not we know all that should be known about how to winter bees is still a question. It is easy to start a discussion on it because so many believe one way and so many a different way. In this picture, at least, everyone will agree that the comb shows winter stores above the brood area in late fall and it illustrates an undisputed fact that the proper place for reserve food in winter for the bees is not at the sides but above the cluster.

IN THE PINK FOR WINTER

by

G. H. Cale

All of us who have kept bees for many years, will remember the time when in spring many colonies were dead and figures from over the country reported winter losses in large figures, particularly during the coldest winters and the longest winters and there have been many experiments and trials to prove that winter losses are due to cold weather primarily.

There have been many bulletins and much research and many articles and disputes and experiences, all of which led to a great diversity of opinions about winter losses. There was a time when it was thought orthodox to pack bees heavily for winter in big packing cases or similar contrivances so the bees would be warm. Warmth was the thing. Don't let the bees become exposed to the cold of winter or they would be gone in the spring.

However, during all this discussion about protection for warmth there were those colonies in box hives or gums or in boxes or barrels or other similar nondescript habitations that survived the coldest weather with few losses provided these colonies had been in their abodes long enough the previous season to have established their own winter quarters in their own natural way. These were enigmas, the unexplained colonies that did not fall into our conception of proper winter management.

As time went on, however, we gradually saw that proper wintering was not just a matter of warmth, it was more a matter of food. If the food supply of the winter colonies was properly provided the chances of loss from temperature were not very great. In fact, a colony in a glass case with its normal combs suspended from rods and subjected to temperatures way below zero, did not die from cold as long as feed was available to the cluster.

Some bees in every colony are lost in winter. There is no doubt about it, but they are lost in little isolated portions of the so-called winter cluster that are unable to move to stores because they lose their cluster warmth and cannot exert any motion to reach the food necessary for their survival and these small portions drop away from the cluster. They are the ones found dead at the end of winter while the cluster itself remains alive and survives.

So the first consideration of a winter colony is that the cluster be large enough to survive these continuing partial losses. This is the fact behind the oft repeated advice that we need large clusters of young bees able to withstand such losses and come through in good shape in the spring. And behind this, of course, is the usual advice that young queens that will lay heavily late in the fall are very desirable for proper winter survival. This is good sound reasoning. There is a great variation in the laying of queens in the fall period. Some queens cease laying early and some lay just as late as it is possible for them to do so, and the number of young bees provided for the cluster of course is the greatest from the late layers, usually the young queens.

There is little use in trying to winter weak clusters of old bees. They might just as well be removed from the apiary in the fall and so not be robbed out later or present a set of empty combs which are moldy or eaten by mice; or even remain as a source for the distribution of disease not found the fall before. The bees from these undesirables can be shaken off their combs in front of neighbor colonies and the equipment stored for spring divides.

In the days when colonies were kept in single story hives, winter losses were probably more severe than at any other time in our beekeeping history. It is now obviously and rightly conceived that a single hive is not enough for the cluster and a full supply of winter stores for the bees, so losses must be necessarily heavy. It might just as well be said that these bees die from starvation which is actually the case. There may be honey in the hive, but this honey is

Below, apiary wintering in two hive bodies, with a tie-pack of side and back insulation, and front tar paper panel, with top entrances. Right, single colony pack of tied paper, two bodies, top entrance, reduced bottom entrance, and front pad.

Colonies in pairs. Paper case with straw pack; raised from ground; special winter tops for close grouping.

not where the bees can reach it. Bees that are clustered between combs, cannot move sidewise to reach honey which is there but inaccessible.

Therefore, the honey store must be above the cluster and must be so placed that the cluster of bees can reach it as they move upwards in their natural way during the winter period. Clusters that reach the top bars of the combs on which the cluster is formed may die at the top bars as they cannot move across them and across the upper space and across the bottom bars of the combs above and perhaps continue through empty comb to reach stores that are actually removed from them by several inches. The cluster must be formed in contact with the stores above them. If these stores are partitioned, the bees may starve.

At one time, I helped determine the amount consumed in winter and it is surprising to find that the bees do not consume honey in any great amount until brood rearing begins. The real heavy consumption of stores therefore takes place after brood rearing begins and extends through the early spring and the exhaustion of the stores will occur in properly provided colonies in May rather than before. The job is to provide them with enough honey stores so they get through winter and, if possible, through early brood rearing. So any replenishment of stores will not be needed until May in northern latitudes.

This takes a lot of stores. We used to determine the stores by taking the total weight of the colony, subtracting the weight of empty hives, combs, cluster bees, covers and bottoms, and subtracting this tare from the total weight to determine the amount of food for winter. It used to be thought that thirty pounds was sufficient, but it wasn't. The ante was raised to fifty or sixty pounds and that was scarcely enough. A good one hundred pounds is a bountiful supply in most winter periods up to the period just before the honeyflow the next season.

This certainly does not mean a single hive body. It means two, maybe three. With colonies in three ten frame hive bodies in the fall, the bottom one will be largely empty after all the brood has emerged and will not contain very much stores. However, the bees during the fall period will have placed stores in the second body and the third body will be quite full. Then the bottom body is removed leaving the bees to winter in the two stories with stores properly placed in abundance and within reach of the bees. Then winter losses are practically negligible.

For a long time, we did not understand the entire picture about the winter food supply. We were thinking entirely in terms of the amount of honey, or supplementary feeding that we did in fall, but we forgot about pollen. Dr. Farrar in Wisconsin called attention very forcibly in his writings and lectures and his experiments to the fact that bees not only need honey, but they need pollen. Honey overlaying pollen is ideal. They not only need pollen, but they need lots of it. It is not food for the old bees, but it is for the young, the new brood. It used to be thought that brood rearing began because bees got so cold and raised the cluster temperature so high that the queen was induced to begin egg laying. Colonies that did begin brood rearing in winter were practically doomed to extinction. How we ever got off on that track, I guess no one ever will know.

Truth is colonies in good condition always begin brood rearing in winter. We have found many colonies with brood in February, certainly most of them in March, when they have the proper stores, and very often colonies in quite early spring will have replaced many of the bees that came through from the fall in the winter cluster. These will be the strong, vigorous, heavy producing colonies of the year.

So pollen is just as important as honey. Bees may survive as adults with honey alone, but they won't have colonies in good condition in spring without the pollen. Much of the dwindling of colonies in spring was simply a matter of pollen exhaustion. Bees could not rear brood to replace the loss of adults in the winter cluster without the pollen. When pollen became available the dwindling stopped and the colony population began to increase from a low point. These colonies often were in poor shape for the honeyflow.

To overcome the deficiencies Farrar was among the first to develop the idea of pollen supplements and pollen substitutes both of which are now widely used to the great advantage of the colonies. There is no substitute however, from an economic standpoint, for pollen properly placed in fall for the winter cluster. The trouble is to have management which will produce this result. Perhaps it is partly a matter of location. Some locations do not provide the pollen. Where they do, that is fortunate. As brood rearing decreases in fall the pollen stores are placed where the winter clusters have access to this supply. There are locations where the pollen supply in late summer is not sufficient to last through until fall. Colonies will have decreased in population and brood rearing will be reduced or it will stop altogether, so that there are few brood combs. A good pollen substitute or supplement then might continue building up the colony for winter without this severe interruption.

So far, we have determined that in our present day conception of wintering we must have an abundance of

Panel fence with braces. Stacks away easily in spring. Heavy winter cases, with sloping covers.

Permanent shelter fence. Slatted construction preferable to solid, to break the sweep of wind and so prevent it from circling over fence and down on the hives.

honey and we must have pollen and we must have a good, young winter cluster.

If there is any particular value in various kinds of wrapping or packing it is from the fact that in northern locations colonies so protected will not consume as much of their stores as those that are not protected. In our own location, middle Ill., we have never found that winter packing is economically advisable, even in the worst winter, with proper winter care, and we have tried all kinds of winter protection.

When packing seems to be advisable from the standpoint of the conservation of stores, the present general plan is to wrap the colonies singly or in two's or four's in black, heavy, tar paper with or without any other protection between the wrapping and the hives. Sometimes casings are used with heavy insulation, but the number who use them is a fraction of what it used to be. Bees were also at one time put in cellars throughout the entire north. This was quite a chore, cost considerable, required a cellar that was suitable, so very few beekeepers use cellars today. Proper cellars for wintering are an engineering job with attention to temperature control and the irritations of accumulated food wastes in the bees.

There is one thing, however, that remains a desirable detail in wintering and that is wind protection provided by artificial fencing or by tree belts or shelter corners. Bees so placed are in a very desirable position as for winter sunshine and cold winds are concerned and shelter belts therefore are still good protection devices.

Considerable discussion is always on tap about winter entrances. Some leave their entrances wide open, some reduce the lower entrances to a small space, some close the lower entrances entirely and provide a top or middle entrance, of some sort. In our own practice, we have a top entrance through the entire year. It may be partly covered in winter with a wire cloth or with wire hardware which is big enough to let the bees fly in and out but no mice can get in. These entrances are about ¾ of an inch and they are bored completely through to the comb. We used to close the bottom entrances entirely, but this results in an excessive accumulation of dead bees behind them which sometimes mold so they are not very satisfactory when they are closed tightly. We use an entrance slat with a center cut out for winter flight and so the bottom boards in spring are usually fairly clean and there are no deposits underneath that can not be removed during flight periods. We also find that colonies with top entrances do not cluster as tightly and when conditions are right bees fly more readily and there is no accumulation of moisture in the hive. No matter what others may think, we prefer the top entrance. Something may change our minds, but nothing has since we tried them and settled on a reduced lower entrance and the flight entrance at the top open all year around.

We can summarize by saying that colonies which approach more nearly the natural winter condition as evident by the box hive, gums, and crackerbarrell are more sure to winter and be alive in the spring than they would have from our earlier ideas of winter. To put a colony in pink for winter then it should have a large cluster of young bees produced late in the season, a super abundance of stores within reach of the cluster, sufficient pollen for winter brood rearing for the early replacement of old bees, some shelter and provision for winter flight above the normal entrance.

The Sideliner

One Hundred Twenty-five and Contentment

by Otto H. Zick

My beekeeping is on the amateur order, as for quite a number of years it had to be carried on as a sideline since my regular occupation was operator and manager of dairy plants. So I had very little time to devote to the bees. However, I quit the dairy business in 1943 when oleomargarine was legalized. It was just a little more than I could stomach.

I am semi-retired now and expect to devote my time to my little pets exclusively. I only have about 125 hives, but likely will increase to a slight extent. Like all amateurs I had, and still have, much to learn, but I enjoy it, and that counts for a lot.

My outfit is what some might call off-standard. I have quite a lot of standard bodies but when we used to be able to get queens from Herman McConnell of Robinson, Illinois, I found that a standard brood chamber was too small. When producing comb honey the queens would have it loaded with brood, so quite often pollen was deposited in the sections. So I had the Lewis people make up a large number of 10 frame Jumbo bodies in which I use nine Dadant brood combs, and I feel it is better all around, for brood rearing and for food supply, and I also feel that the bees are less inclined to swarm then in standard bodies.

I use two bodies for brood for the extracting hives, and for extracting supers I use the Dadant depth in the 10 frame width. That's the best super of them all. Bees do better work in them, there are fewer unsealed combs, and they are plenty heavy for the average person to lift off the hives when head high or higher.

I am not at all sold on the idea of top entrances for any hive, as ventilation can be given in many other ways, and I couldn't be induced to ruin good equipment by *augering* a lot of holes in it, with the ever present corn cob to plug it up when necessary.

For wintering I have tried many different ideas. I used to pack heavy with dry leaves around the sides and top. Later I tried only dry straw and couldn't see any difference. Now I just pack one thickness of sisal kraft paper around the hive as a sort of windbreak, and on the top of the hive put a pad of newspapers about a quarter inch thick, and it laps down on all four sides to keep the top heat in, and I tie it with binder twine. Then I cut a small hole about an inch wide over the bee escape hole so the moisture can slowly percolate through a pad of straw several inches thick. Fold the sisal kraft paper together on top, slap on the hive cover and a few bricks and its done. Even if the bottom entrance should be clogged with ice or dead bees, the live ones do not suffer as I've found many times. You will often see pictures where the hives have waterproof paper caps tied over the hives. No good. It retains all the moisture as I've very well found out. Once I even tied balsam wool around the sides of the hives to be real good to them. Cost me $2.50 per hive, and in the spring I had moldy combs, weak colonies, the hive walls soaking wet, and every bit of paint gone. So we live and learn.

I have always numbered all my hive bodies for my own reference purposes, and not as a lady questioner once asked me if it was so the bees would know which was their hive.

I get a lot of contentment summer evenings just to sit among the bee

(Turn the Page)

One of Zick's yards. We would all like to have ours this good in the present year.

hives, to contemplate, to smell the fresh nectar, and to see the bees coming in or fanning their days work, and to smell the sweet zephyrs that come across the clover field on warm days.

To my way of thinking it is truly a fine way to spend the sunset of one's life, and while it has its worries, there is no contentment like it. In the spring the bees seem to give new life and new hope, while in fall they indicate they have earned a rest, for a faithful job well done. In all ways, I like them.

Wisconsin

LUNAR EPISODE

by G. Theodore Freihofer

One balmy summer night, under the overwhelming spell of a brilliant full moon, I sauntered out to my hidden path at the further side of a distant, woodland field; and, I wended my way to a well secluded nook wherein stood my special hive.

As a approached I noticed at once that the alighting board was nearly covered with bees. Most of them were fanning quietly, while a few ran nervously here and there on the hive front.

What sort of intruder had invaded the sanctity of my secret hive site? What culprit had dared to violate the placid rectitude of my revered colony —? Or perhaps I was wrong in harboring suspicion; maybe there hadn't been any culprit. Then a whimsical thought came to my mind: The entire situation being enveloped in a very exotic atmosphere, possibly, in this softly lighted and secluded citadel, some of the bees had decided to sally out of the hive and spend the warm and glowing night on the alighting-board, where they could, perchance, watch the Man-in-the moon when he made love to Selene.*

For the moment I let it go that way, without further speculation, and hastening home, brought out my trusty camera which I then set up in the impelling light, and took a revealing picture of my "moon-gazing" bees, to be preserved for all time.

I shall grant the bees the benefit of the doubt, however, for my hasty conclusions regarding their bias conduct were not at all well founded. I became aware of this the very next morning, when, after the fervent night of the Lunar spell had passed, and the blazing Sol had restored the bees to their accustomed activities, I discovered a scuffed-up handful of partly dried-out leaf-mold, about a foot to one side of the entrance of my "spying" colony.

In the pale of the moon, on my nighttime visit to the hive, I hadn't noticed this, and even now, in the broad daylight, it was by no means over-conspicuous; in fact, at first glance, I took it to be the early-morning "scratchings" of a Chewink or a Jay, in foraging for its breakfast. But these minute "scuffings" of

Freihofer's "Gypsy" hive, 12 frame capacity. He says it is practically swarm proof. Top super is a standard.

dead leaves proved to be a clue that enabled me to solve the mystery of the bees' off-tense and peculiar behavior; for, upon closer scrutiny, I discovered in the semisoft, sandy loam at the front of the hive, the faint imprint of a tiny, human-like hand. The mystery was thereby solved! Takara,* the racoon, had been the moon-light prowler that had alerted the bees.

This shy, clever, nocturnal marauder, like his big cousin, Bruin, the bear, is very fond of honey, and the sweetly scented odor from the hive-entrance had doubtless attracted his attention. I couldn't help smiling to myself, however, as I contemplated the stark significance of those slight, but tell-tale "scratchings" in the leaves, for it was very evident to me that they had been made by sharp claws attached to nimble hind feet that had suddenly been called upon to furnish the impetus for a speedy departure. Takara* had missed the point of his visit to the beehive, but not the point an irate bee had undoubtedly inflicted upon his soft, tender nose as he poked it into the hive-entrance in an effort to get a close-up sniff of the captivating aroma that seemed to indicate a goodly store of lucious sweets within.

*Selene: In Greek mythology, Selene is the goddess of the moon.

**Takara: The name of my leading fictional animal character, a raccoon, in one of my wildlife stories.

Vermont

Drone Comb for Cell Cups

I raise quite a few queens every year and I find that new, white drone comb makes very good cell cups. I cut the cells to about 5/16 inches in length and stick them on pieces of sections onto the cell bars, ten or twelve to the bar. The cells are primed with Royal Jelly and one frame with two bars is given to a strong colony from which all unsealed brood has been removed. There they are left until ready to put out in about ten days. I make my grafting needles out of hackwood sticks like those that come with ice cream bars. I have an oak peg the same size as a queen cell cup to ream the drone cell cups with as this expands them to the right size.

Paul Wege, Oklahoma

Storage of Terramycin

The Pfizer chemical company, makers of terramycin, gives the following information about the storage of the drug:

1. Terramycin can be stored under optimum conditions for at least 12 months and still be usable at full effectiveness. The company stated that normally the material will not lose its potency for a period considerably beyond 12 months.

2. Ideal storage conditions for terramycin—where it is dry and constant room temperature (about 72 degrees F.)

3. It is better to store the chemical in a sealed container than in a paper bag or open sack.

(from B-Notes, Colorado, for July)

Mixed Farming and Beekeeping

by Mrs. Gladys Halter

We moved up to Siskiyou County, California, which is far northern California, bordering on Oregon, in the fall of 1949. We brought our bees along with us from Bakersfield, a distance of about six hundred miles. We bought a 200 acre farm which had been planted to wheat for about one hundred years.

In the spring of 1950 we planted eighty acres of alfalfa and 60 acres of mixed sweet clover to improve the soil. The alfalfa was for hay. That season the plants made good growth but did not bloom and we got no honey surplus. The bees just filled up for winter.

In 1951 we got five tons of honey from about 130 colonies. In 1952 about 6 tons. We had the bees in two yards, one yard at home; the most of them at a neighbor's who wanted them to pollinate his alfalfa seed. He sprayed his alfalfa for lygus bugs. We did not spray as we were raising hay then, and our bees here at home made more than double the surplus of the other bees two miles away, when the spraying with D.D.T. was going on.

So the third year, 1953, we brought them all home and started to raise alfalfa seed ourselves. We sprayed once, just as the blossoms began to show color and that year we got 10 tons of honey, all hives in one yard, and got a good crop of alfalfa seed. In 1954 we repeated the same crops, but last year, 1955, we reduced our bees to about 120 colonies because of so much other work, and it also turned out to be the driest year here since weather records have been kept. We did not get our last irrigation. We irrigate five times a season for the alfalfa. We got only 5½ tons of honey and ½ of the alfalfa seed crop because of lack of water. We cut the alfalfa for hay about the first of June and sprayed about the 3rd week in July for lygus bugs which are really bad here.

Now we have had one of the worst winters on record (1955) so we look for a repeat of our good seasons. The dams are full of water for next summer and our ground is really soaked.

We use our sweet clover in rotation for wheat and we also have thirty head of cattle started, to pasture the sweet clover. They do not eat it down enough to hurt the bee pasture. There are always volunteer rye and wild lettuce which the cattle are very fond of, so we have had no trouble with bloat so far.

I do all the bee work until it is time to extract, as I really love the bees and the work. We built a new cement extracting house two years ago. We are going to do some requeening with Starline queens. We have nice gentle, good-working bees now, but they chill too easily in the winter when they carry water in this cool mountain air. We lose a lot of bees that way.

We live in a beautiful mountain valley with Mt. Shasta looming large in the Southeast.

California

Mike Reaches 85

by Wilbur K. Dehmer

This is about my friend, Mike Carrol, who celebrated his 85th birthday three days before I took the picture of him next to his giant colony. He was then hoping he would not have to put another super on it. He started with bees when he was a boy on his folks farm home and he has worked with them since for a total of 65 years.

His best crop was in 1953 when he had 16 colonies and got about 160 pounds of honey to the colony. 1954 was his worst season when he got only about 35 pounds per colony from 22 colonies.

Mike lives at Albany, Wisconsin, 35 miles south of Madison. His honey sources are mainly sweet and Dutch clover, with dandelion and fruit bloom for build-up. Speaking of his choice of bees, he likes Italians but he says "I really prefer Starline hybrids. They are real honey gatherers."

The picture of Mike next to the tall hive shows the most supers he has ever placed on a colony. He is trying to teach me about bees. I bought a new hive and set it up for bulk honey and he got a swarm for me out of those locust trees about the 23rd of June. To my surprise, they have netted me a total of 56 pounds of clear, white honey in addition to winter stores. He advises me to watch them and work slowly and deliberately around them and you will learn something new all the time.

Wisconsin

Mike Carroll stands beside one of his tall ones in upper picture. The whole yard (lower picture) looks like a bunch of skyscrapers.

Teaching Beekeeping In High School

by Raymond L. Layne

"This has been the most interesting unit we have studied this year," said Joyce Edelen, freshman at Valley High School, Jefferson County, Kentucky.

"It was especially enjoyable to me," spoke up Peggy Mattingly, who has two hives of bees of her own.

"Can't we just spend the rest of the semester on bees and honey?" asked Dale Cantril.

These remarks, made at the close of the unit on BEES AND HONEY, taught in 'VALLEY' to four sections of general science and one class of general agriculture, are typical of the students' reactions. I formerly used the unit with my classes in vocational agriculture, but I now find it very useful in teaching general science. The unit is easy to present and I never fail to get favorable responses from the pupils.

The pictures here, taken by Jimmy Smith, a senior student, show graphically how the material is presented. A glass observation hive with bees

Lane begins with the observation hive.

Then to the literature about bees and beekeeping.

Thence to chart making.

Then to equipment assembly.

Finally out to the bees.

To end up with a feast of honey.

and honey proved to be a good attention getter. Use was made of charts, pictures, jars of honey, beeware and various kinds of hives to forceably impress the students at the very outset of the unit.

Stacks of copies of bee magazines in addition to government bulletins, leaflets and a shelf of books on bee culture were available for study. Demonstrations and lively discussions were held each day on some phase of the unit and interest heightened as the story developed. A beginner's outfit for beekeeping was at hand for examination and the boys had to try the helmet and veil on to see if it would fit.

As the unit progressed, the students were asked to make a note book and prepare at least one poster illustrating some point in the study of bees and honey.

The unit was planned to run for three weeks, and the work was divided into steps to insure that all important phases of the study would receive some time. After the initial presentation of the unit as a whole, the literature available was introduced, and the students were permitted to browse through books and magazines to see what was to be read. The students were assigned the task of writing an essay on THE STORY OF THE HONEYBEE. An outline was given them to use in unifying their material for the essay. Several days were devoted to reading and note taking before the actual composition was undertaken.

Several typical posters were displayed for the class to study and discuss, after which each student was asked to prepare a poster for the poster show which was to be held later in the year. There was keen competition in selecting and arranging poster material. Many students said this was the most enjoyable part of the unit.

The straw skep, log gum, box hive, and the modern wood and aluminum hives were shown and their merits and demerits were pointed out and discussed. When it came to assembling frames and inserting the sheets of wax foundation, all the boys and girls wanted to help. We soon ran out of frames and foundation. I noticed that the students who were most active in cutting, pasting, coloring and nailing, also prepared the best notebooks and scored the highest on the final test. This further confirmed the opinion that the development of the mind follows the activity of the hands.

Preparation was then made for a trip to the apiary. This included the use of veils, gloves and smokers. A hive of bees was brought to the vicinity of the class room and a demonstration was staged showing how to open and examine a hive of bees. This demonstration was followed by a trip to the 'bee yard'. The last lesson of the unit was on HONEY AS A FOOD. The students provided bread and butter, and the instructor opened up jars of Kentucky wild flower honey and Indiana clover honey to make sandwiches. This literally left a good taste in the mouths of the students for further persual of the study of bees and honey.

Valley High School
Valley Station
Kentucky

Prost booth at National Food and Confection Show in Hotel Astor

Honey From Here, There and Everywhere

When it comes to popularizing honeys from everywhere in the world, Andre Prost, Inc., in New York City, for years have developed a business in foreign and domestic fine foods with considerable emphasis on honeys. Prost displays contribute in a large measure to making the public honey conscious. More and more department stores, fine food shops, gift shops, and cheese markets stock Prost honeys from here, there and everywhere.

Among the honey Prost imports is rata honey from New Zealand, ling from Norway; Norbonne, alpine, Gatanais sainfoin, heather, thyme, lavender, savory, fir tree honey, rosemary from France; acacia from Yugoslavia; linden from Germany; gum, yellow and white box, stringy bark, peppermint tree from Australia; ulmo (dogwood) from south Chili; coffee, keawe, and logwood from the islands; and orange, clover, cranberry, clethra, white brush, blue thistle, and snowberry from this country.

Stores take Prost displays for granted: City of Paris in San Francisco; J. L. Judson in Detroit; Woodward and Lothrop in Washington D. C.; Halle Brothers in Cleveland; Sibley, Carson and Curr in Rochester, N. Y.; Abraham and Straus in Brooklyn; B. Altman and Bloomingdale's in New York; Snellenbirg's and John Wannamaker's in Philadelphia; Ed Shuster's in Milwaukee.

The picture shows the booth by Prost at the National Fancy Food and Confection Show at the Hotel Astor in New York. All his imported honeys were displayed under a sign; "The international rivalry of the bees is to be thanked for these exquisite creations, each one a masterpiece." On the wall, under a sign "The Parade of the States" the labels of many domestic honeys were shown in an attractive setting.

The Beginner And His Bees

Fall and Winter Management

by W. W. Clarke, Jr.

Extension Apiarist
Pennsylvania State University

Next year's bee population and honey crop are largely dependent on how well the bees are managed this fall and early winter. Even though wild bees can usually take care of themselves, it must be remembered that man does much to bees which never would happen naturally. Such acts as disturbing them at frequent intervals, robbing them of honey, selecting their homes, and home sites, are definitely artificial controls. If a good job is done, the lot of bees will probably be improved.

Several conditions are necessary for good wintering and for strong colonies next spring. Each hive must have a good supply of stores; both honey and pollen. A colony will need about 60 pounds of honey, if it is to live through the winter and early spring. It is easy to be fooled in the amount of honey in the hive since often the brood nest will have combs of pollen with a little honey stored in the cells before they are capped.

It is a good idea to have at least one shallow super full of sealed honey. Pollen must be present for brood rearing but in the area around Pennsylvania no supplemental pollen feeding is needed because the bees usually store enough to meet their own needs.

A young productive queen is most important in building a colony of young bees which will winter well; also a young queen will start to lay early in the spring and build a strong colony which will be able to gather early honey. Fall is an ideal time to requeen.

Place the mouse guards, as one young beekeeper called the entrance blocks, in the entrance at about the time of the first frost, to discourage any mice which may try to get into the hive. The long narrow entrance with the opening at the top is good. This helps to prevent suffocation which may occur if dead bees, ice or snow should clog the entrance. A piece of No. 3 hardware cloth may do well as a mouse guard, either tacked to the hive or used as an entrance block.

Wind protection is a very important feature of good wintering. It need not be anything fancy; a few boards, snow fence, or corn fodder placed a few feet behind the colony on the windward side is a big help. Natural windbreaks, such as trees, buildings, stone fences, or hedgerows, are very good.

A location with good air drainage will help prevent excess moisture from fog which has a tendency to settle in low pockets. It is far better to place the bees on the side of a hill rather than in a valley, if this is possible. Excess moisture may well be a contributing factor to winter losses and the build up of some diseases.

The use of an upper entrance, an old beekeeping practice, has again become popular and aids in wintering in most areas. The upper entrance should serve as an upper flight hole. Bees seem to fly a little earlier or at lower temperatures, if it is used, and moisture is less of a problem. One of the simplest forms of upper entrance is a ⅝-inch auger hole off to one side of the handhold in the upper hive body or super. Many beekeepers object to such damage to a hive and build rims with an opening; or stick small blocks under the inner cover, or use one of a variety of ways to get more ventilation.

Entrance block, upper entrance, lid weight, natural windbreak and hive on good stand.

Some feeding of sugar syrup may be beneficial, especially if the fall source of nectar is of poor quality, since it places a good food near the brood nest and the cluster. Some beekeepers are now making a practice of placing several pounds of dry sugar on the inner cover to supply extra food as it is needed in the spring.

Packing or wrapping may be needed in the extremely cold and windy parts of the United States. Very little packing is needed in Pennsylvania.

Colony in Ground Hog Hole

About the middle of August (last year) I found a colony of bees in a creek bottom in a large ground hog hole. I dug them out and hived them and they developed into a nice colony. Their comb was back in the ground four feet and extended out even with the mouth of the hole.

Ray Miselbrook
Illinois

Honey and Cancer Series

No. 7 **by D. C. Jarvis, M.D.**

As we continue to approach the subject of cancer from the viewpoint of Vermont folk medicine we become interested in the ability of one cell to produce two cells, the one cell dividing into two equal parts. A body cell grows and divides in two. Each of these two cells thus created again grows and divides into two. By this cell division life goes on. There is present a constant urge toward constant multiplication.

Body cells seem to know but one law which is to grow and divide and to multiply without restraint. Some hidden force controls the limits of cell growth so that the cells making up each organ in the body know the limits of their growth. The cells of the eye and such organs as the heart and liver grow to their allotted size and perform the function of the organ they form but they do not go beyond these limits. In cancer some of the body cells no longer obey this law of growth limitation but become outlaw cells that have thrown off the restraint that holds them within bounds. In Vermont folk medicine the object of treatment is to restore the restraint that controls the growth of normal body cells. There must be something in honey that does this because it is common knowledge in Vermont folk medicine that beekeepers do not have cancer.

Another characteristic of body cells is their electrical make up. As I read I learn that it has been known for many years that the activities of living body cells are associated with the production of electricity. Walking across a rug during the winter months here in Vermont will often generate within the body electricity to a degree that a spark will result when any metallic object is touched. If a galvanometer circuit be interposed between two regions on a cell surface one of which is more active than the other a current of electricity will flow towards the more excited region. Bio-electric currents of this type are well known in muscle fibers, nerve cells, and secretory cells. The detection of such currents is important for they not only indicate that there is a difference in the electrical potential between an inactive and an active cell surface but also that the cell is capable of generating electricity like a galvanic cell. Unlike the potential difference between the cell surface and its external medium the bio-electric potential is a specific characteristic of life for it disappears whenever the cell dies. In one way the production of a current as a result of injury or as a result of action is just as vital a process as ordinary breathing and although the total amount of energy involved is probably very small the distribution of this energy is a fundamental factor in the organization and behavior of the body cells. The practical significance of the action of electric currents is more clearly illustrated in muscle and nerve cells. Whatever the origin of these electric currents there can be no doubt concerning their importance when considering body cells. They enable us to realize the delicate nature of cell balance which is so characteristic of cell life.

If sickness or accident should come to you try always to remember that the cells of your body fight courageously to live. You should always plan on this great come-back power, the reserve second wind power, the vast treasure house of cell health reserve. Try to remember that in restoring your health the program you yourself can follow is to create within your body cells the will for lawful growth, to create anew within them the electric charge that is normally theirs and to help them defend themselves against harmful microorganisms that seek to destroy your body and return it to humus with which to enrich the earth's soil. As this series on honey and cancer continues I will endeavor to tell you what Vermont folk medicine does to bring this about.

The following experiment will illustrate this come back and second wind power of your body cells. An insect is caught. It is held under water with a pair of tweezers until it is drowned. Another insect is caught and held under water until it also is drowned. The two drowned insects are removed from the water both dead. One only of the drowned insects is covered with salt. As one watches this one insect that has been covered with salt he perceives a miracle unfolding before his eyes. Soon the dead insect is brought back to life. What has happened is that the salt on the saturated body of the drowned insect ionizes it setting up minute electrical currents. Presently the insect resurrected will stumble blindly out of the salt, shake its wings and fly away. The other drowned insect not receiving the salt and hence no electrical ionizing is forever dead folllowing the drowning.

Beekeeper's Apron

For security of tools we provide beekeepers aprons. These are made of stout, washable, off-white, unbleached calico. They fit over the neck, are tied round waist with tapes and have two frontal pockets. Mine is fitted up as follows:

Attached to neck tapes by blanket pin is a spatula on thong with blade about 2½ in. and corners rounded to avoid cutting the fabric. The scraper rests in one pocket together with 3 in. clutch screwdriver. On opposite side is attached by strings and safety pin one scissors (for clipping), one pencil or ball pen for writing records. In the pockets are also the following: Piece of white chalk for marking contents of apparatus, several narrow- and wide metal ends (frame spacers), matches and match box with peep hole in top covered with celophane. This apron carries all the items needed when working bees and they are always at hand, no time is lost searching for missing tools. In hot weather the head tapes keep the skirt of the veil neatly down and prevent bees crawling under.

A. H. Bowen, Cheltenham Spa, England

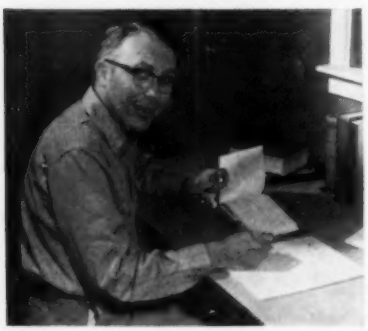
A New Approach To Disease Resistance Research

by Mervin Lynch

The day may be almost here when a beekeeper will not be distrubed when someone suggests that there is AFB in one of his colonies.

For nearly four centuries commercial beekeepers have feared American foulbrood like the plague. They have tried to check its spread with corrective treatments such as shaking and burning. These have been expensive and sometimes unsuccessful efforts. Sulfa drugs and antibiotics which inhibit the development of AFB in a colony are a possible new answer to the disease problem.

A more basic weapon in the war against AFB is indicated by the bee genetic research that is presently being conducted at a few bee research laboratories in the United States. Disease resistant hybrid bees may possibly be developed once the inheritance of the characteristics of disease resistance are understood.



Dr. Walter C. Rothenbuhler, head of bee research at Iowa State.

Part of the research currently being carried on at Iowa State College, under the supervision of Dr. Walter C. Rothenbuhler, is concerned with a genetic study of disease resistant strains of bees. These studies are designed in part to provide commercial queen breeders with the information necessary to develop stock resistant to American foulbrood.

Work on breeding disease-resistant bees was started in 1935 at Iowa State College by the late O. W. Park, professor of apiculture at the college, Floyd B. Paddock, Iowa State Apiarist, and the late Frank Pellet, a representative of the American Bee Journal.

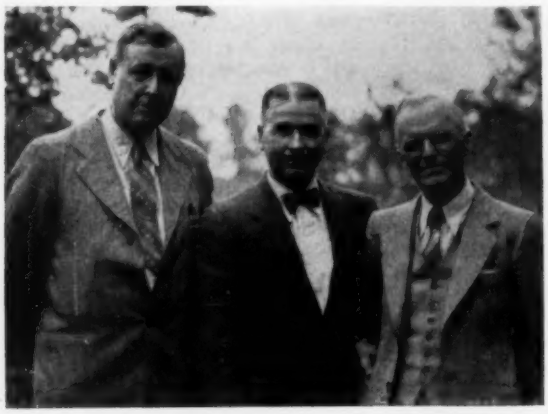
The experiment was organized to determine whether any colony of bees could overcome American foulbrood. Discovery was made in the first few experiments that some colonies did overcome disease. Progress was made in breeding strains of bees that had a high resistance to the disease.

However, little was known about how bees resist disease. This had hindered the development of disease resistant stock and might explain why disease resistant bees are still not generally available.

Several years ago Dr. Park and Dr. Rothenbuhler began line-breeding both resistant and susceptible strains of bees. Good results have been shown from this work. Last year one-half of the colonies in one resistant line showed not one new cell of AFB following insertion into the brood nest of a piece of comb containing about 75 scales of AFB. Most of the colonies that did show new AFB eventually recovered from it. When colonies of a susceptible line were tested similarly, all colonies immediately became infected with hundreds of cells of American foulbrood. None of these recovered.

A total of three genetically marked lines are being bred for high resistance to American foulbrood and three other genetically marked lines are being bred for high susceptibility.

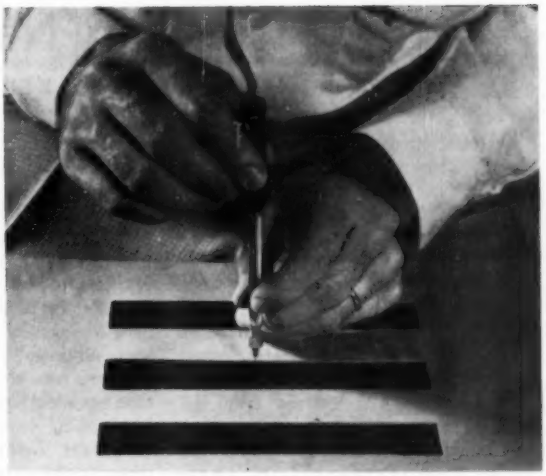
It may seem ridiculous to be using modern scientific bee breeding to develop bees that are more susceptible than the original bee, but this is actually very important in the discovery of the biological processes whose actions enable a bee to avoid and overcome diseases. These are called



F. B. Paddock, right, Dr. O. W. Park and Frank C. Pellett, who began the disease resistance studies. (Park and Pellett now deceased.)

Victor Thompson in charge of maintaining the various genetic lines.

L. F. Lewis, on leave from U.S.D.A., testing genetically different larvae for variation in resistance.



Inoculation of larval food with micro-syringe designed at Iowa State College.

resistance mechanisms. Presence of these various means of resistance in highly resistant strains is greatly magnified when compared to their absence in highly susceptible strains.

Until recently it has been thought that resistant colonies differ from susceptible ones in only one way—that discovered by A. W. Woodrow and co-workers some years ago. These investigators learned that resistant bees remove the sick larvae from the cells of the comb promptly. Susceptible bees often allow the larvae to remain in the comb as a source of additional infection.

More recently, A. P. Sturtevant and I. L. Revell, working at Laramie, Wyoming, learned that resistant bees seem to actually strain the spores that cause AFB, from sirup that is infected. Less resistant bees do not remove as many spores. Certainly resistant bees would also remove spores from honey being robbed from an infected colony dying of American foulbrood.

Victor C. Thompson at Iowa State College learned in 1953 that resistant nurse bees seem to protect the larvae they nurse from getting the disease. This protection may or may not be due to the spore removal as noted by Sturtevant and Revell.

Last year Rothenbuhler and Thompson discovered that larvae of some strains are more resistant to the disease than larvae of other strains. Prior to this discovery, it was thought that all larvae were equally susceptible.

Associated in this work with Rothenbuhler and Thompson are J.C.M. L'Arrivee and Fred L. Lewis, graduate students at Iowa State College. They are trying to discover other mechanisms of resistance to AFB or to clarify further the relationships existing between American foulbrood and honey bees.

Much more work is needed before we will adequately understand how bees resist disease. Dr. Rothenbuhler feels however, that when more is known about the heredity of the mechanisms of resistance, it will be possible for commerical bee breeders to develop directly an American foulbrood resistant strain of bees. These can be guaranteed when they are sold to the commerical honey producers.

Salah El-Din Rashad, from Cairo University in Egypt, is studying genetics and artificial insemination. In part for his doctor's degree begun with Dr. R. L. Parker at Kansas State College.

Louis Shanek, New Nebraska Inspector

Age 44, five children, native of Fairbury area. Trained in beekeeping under Warren Adee, Wymore . . Also previously a farmer. He says: "Lee (Reents, former inspector) lost his hair while in inspection. But I have the jump on him as I have already lost mine."

The American National Honey Show

by Carl E. Killion, *Superintendent*

On August 19th the 4th National Honey Show ended at Springfield, Illinois. As superintendent, I was more than pleased with the response given the show this year. We actually heard thousands of comments on what a wonderful show it was. Many were interested in how long the show was to be held in Illinois and where it was going next year. The latter question we could not answer.

There were 172 entries from 15 States. This was almost double what was entered in 1955. The States entering were: Connecticut, N. Carolina, Maryland, Ohio, Michigan, Indiana, Missouri, Iowa, Kansas, Nebraska, Wisconsin, Minnesota, Utah, California and Illinois.

The Illinois State Fair is always held in mid-August. This early date prevented many from entering the National Show. A State having its Fair in September or October would give beekeepers more time to prepare their entries.

There was some breakage in honey that was not cushioned good enough in shipping cartons. I am sure if all exhibitors could have been present when packages were opened it would have been an educational experience. Beekeepers can and should improve the packaging of honey for shipping. Our Post Office Department and the Railway Express Company were not to blame in any case where we found broken jars or comb honey sections.

The honey cake receiving the first place award was shipped from Minnesota. It took an awful battering from the looks of the shipping carton, but the cake was so carefully protected it won first place.

The regular carton of jars one delivers to the grocery should never be used for shipping without first placing it in a larger one with pack-

General view of the National Honey Show. (Photo by Illinois State Fair).

Wm. J. Wallanches, Downer's Grove, Ill., won Dadant & Sons sweepstakes trophy.

H. E. Dale, Herrin, Ill., with first exhibit he ever made, won Governor's Trophy for the best display booth. (Ill. State Fair photo)

Trophies and winning entries. (Wedding cake not a part of show) (State Fair photo)

ing on all sides. Stickers with "Liquid in Glass" were not used on most of the packages.

It is only proper at this time that some instructions be given to those wishing to enter the National Honey Show in the future. Just as soon as the location is announced and the name of the Secretary is known, write and say you expect to enter. He will then place your name on file to receive premium list and entry blank as soon as printed. When premium list is received make the entries immediately. This will give the Entry Department adequate time to send entry tags. One more suggestion is to ship the material several days in advance of opening date. Each year we had to check the post office and express office before the judging started. Each year there was honey received after judging was completed.

The many who contributed trophies for this show are to be congratulated for their effort to keep the show going.

I have had experience as an exhibitor, as a judge, and as Superintendent of State Fair Honey Shows. I can truthfully say our National Honey Show is the best single advertising medium our industry has.

Personally I wish to thank our Illinois Department of Agriculture, Stillman J. Stanard, Director, and the Illinois State Fair, Strother Jones, Supt., for their splendid co-operation in playing host to the National Show for these two years. My assistants who helped make my work lighter were the best.

Will They Buy?

by C. D. Floyd

This question may not have occurred to you as a producer of honey. It is time to consider such a question, however, because there is good evidence that the buying habits of housewives are undergoing very important changes. Did you know, for example, that a food survey carried out in supermarkets in 1955 indicated that one-third of all the food items offered for sale were unknown items ten years ago? A visit to a supermarket will impress upon you that today's food buyer has practically unlimited choice among tempting foodstuffs. This makes him less dependent upon the indispensables our parents considered so essential. In other words, it is not necessary to buy one or two gallons of honey for the winter because modern merchandising has provided a host of other articles available the year-round in any supermarket. You and I are challenged with the job of presenting honey in competition with these many items. Unless we accept this challenge and enter the field we must still wonder, will our customers still buy?

The September issue (page 369) outlined for you a method of selling honey. This plan has been tested and really works. Some of the finest art work available has been lined up for this program. Over 2,000 kits will be ready for mailing as you read this article. We need your participation. Our response so far has been excellent. However, if your state chairman has not contacted you about building a store display, you contact him—only an all out program will be sufficient.

In this type of sales promotion we must realize early that next year is not the important year, it's this year that counts. To be successful every cooperator must "hit the ball," we just can't afford to "strike out." Point of purchase sales work is unique. When your display meets the customer, your customer is not in a reasoning mood. All studies seem to prove she or he, as the case may be, will react emotionally and quickly, and you will have sold the customer or failed. This is an important thought in planning your display. Remember—that display may not "get up to bat" again.

If the display is merely to stop the customer, size, color and motion will no doubt do the job. This, however, is not our only objective. We must have her select a purchase. Will your display do this?

Academically the purchase results after the customer makes up her mind. This may come about because your display reminds her that honey has many uses; over fruit, on hot biscuits, etc. It is possible you must awaken in her a hidden desire to splurge a little—an attractive jar of chunk honey—fancy, containing the delicious taste and aroma of newly opened comb honey. Or maybe honey has created for her a subconscious feeling of distrust because it drips on the childrens clothes. Let's face the facts; this customer needs pampering—provide for her the release from this problem—creamed honey.

Your customer wants to believe that you had her in mind when you selected the jar to fill with honey. She would like to think that you had her in mind when you found for her that special little plastic squeeze jar.

Occasionally we find customers confused as to choice. At our state fair sales booth we have on display more than twenty varieties of honey. Customers frequently volunteer the question "which is the best." They want honey but are confused by the large number of labels, colors and flavors.

In setting up your display you can eliminate, in part, this subconscious "misery of choice" problem by using the brands already found in the store in your display. This National Honey Week effort is, of course, designed to sell the nations pool of honey rather than to promote one honey over another. You may be amazed to find if you adopt this approach in a strange market, frequently the merchant will consider handling your honey. You have shown him you are in a position to help him merchandise the product.

Finally one must consider this display of yours is to be the clinching element in our all-over program to sell our customer. She has been softened up by deft messages over radio and T.V. as well as articles in local food columns on the value of honey as a food. She will be inclined to consider favorably, your display—so choose a good store area, use pleasing color combinations; our appeal is neuter in nature, not focused particularly to the feminine or masculine, so good yellows, clear bright browns or orange-reds will be attractive and eye-catching for October.

Wherever possible, our state leaders will reach the T.V. field for one or more shows. Customer studies indicate that T.V. has scooped the merchandising field as a sound media for advertising. This proves the old saga, "seeing is believing," even in this modern era. Out of seventeen kinds of nationally advertised products sold in the average supermarket, the average housewife finds television is either the dominant or the leading influence in the choice of fourteen. The next most important media, magazines, falls a poor second, with only three items to their credit.

Can we depend upon you to do your part and make sure our answer to the title question is in the affirmative?

Sixteenth International Congress

by Roy A. Grout

More than 700 persons from 36 countries attended the International Congress in Vienna, August 12 to 18, 1956. In one of Europe's most beautiful cities, the meetings were held in the spacious and ornate hall of the Town Hall and the University. In the former place, each chair for the first time at an International Congress was equipped with simultaneous translating equipment so that every one present could listen to the talks in German, French or English.

Those attending the Congress from the United States were Jas. I. Hambleton, Head of the Division of Bee Culture and Biological Control; Mr. and Mrs. R. B. Willson of New York City; Dr. and Mrs. Mackensen of Baton Rouge; and Mr. and Mrs. Roy A. Grout of Hamilton.

Austrian courtesy is noted throughout the world, and all who went to Vienna can testify that they enjoyed the finest of treatment and had a wonderful time. The many talks in the various meetings of the Congress were interesting and educational, and the contacts made during the week of the Congress were most important to all who were there.

Inasmuch as our space in this issue of The American Bee Journal is quite limited, we chose to give you a short picture story of the Vienna Congress and in the November issue plan to use a more complete story. This will include the preliminary scientific meetings, interesting highlights and side trips, the meeting of Apimondia, and more on the Congress. It is a world-wide get-together of beekeeping interests which takes place every two years. It is a meeting in which more from the United States would find real profit and pleasure in attending.

At top left is P. S. Milne of England and Jas. I. Hambleton using their head phones to hear an address in English which is being spoken in German. In the center, Dr. Otto Mackensen gives one of the main lectures on artificial insemination. At top right is a candid photo of Dr. K. von Frisch — the world's authority on the language of bees. At left at the bottom is the Neus Wiener Rathaus or Town Hall in which the Congress was held. At bottom right you see the Congress in session in the great, festive hall of the Town Hall.

ET'S GET TOGETHER

Learn and Mix in '56

Southern State Beekeepers Federation in convention with the Tennessee Association, Chattanooga Area Association, American Bee Breeders and Southern Division of the Apiary Inspectors of America

Hotel Patton, Chattanooga, Tenn.
October 10, 11, 12

Oct. 10—3:30 Business Meeting, American Bee Breeders.—4:00 Business Meeting, Tenn. Association—7:00 Informal Reception, Tenn. Association and Chattanooga Area Association.

Oct. 11—8:30 Registration.—9:00 Call to order, W. A. Stephen; Invocation, Rev. W. S. Keese; Welcome, Mayor P. R. Olgiata; Response, Lynn Dewey; President's address, W. A. Stephen—10:00 Our Future Bees, Dr. G. H. Cale, Jr.; 10:20 Lessons from European Beekeeping, J. I. Hambleton. Announcements, Appointment of Committees, Recess. 11:00—Better Bees for Commercial Breeders, Paul Cutts; 11:30 Recent Progress in Bee Genetics, Dr. Otto Mackensen. 12:00—Lunch.

Afternoon Session, Oct. 11—In two parts Commercial and Hobbyist. Also a conference of Apiary Inspectors, Homer Tate presiding.

Commercial—1:30—Panel, Preparing and Marketing Honey, A. V. Dowling and Raymond Fischer, H. L. Maxwell, H. C. Babcock, H. L. Murphree. 2:00—Honey Price Support, Harold Clay. 2:15 Impending Dangers to Our Industry, A. D. Hiett. 2:40 — Swarm Control, George Abrams. 3:10 Current Research on the Chemistry of Honey, Dr. L. W. White. 3:30 Nosema Disease in the South, Dr. Leslie L. Ellis. 3:45 Changes in Florida's Inspection Law, H. E. Foster. 4:00 Panel, Package Bee and Queen Production, Leslie H. Little with E. C. Bessonet, M. S. Fortune, Eugene Jensen, Warren Wilbanks, Harvey York, Stanley Weaver.

Hobbyist—1:30—The Importance of the Hobbyist, Alan Root. 1:50—Pleasure and Profit from Backlot Bees, Walter T. Kelley. 2:10 The Way the Bee Flies, M. G. Dadant. 2:30 Purposes and Aims of the Eastern Apicultural Society, J. Gaston Levitre. 3:00—Glass and Honey, George Dakan. 3:30 Questions and Answers.

Both Groups—4:15—Sticky Tricky Quiz Show. 7:30—Banquet. Toastmaster, Alan Root; Speaker Buford Ellington.

Oct. 12—Roll Call of States. 9:20 Cooperative Packing Enters the South, Sioux Honey Representative. 9:40—The Work of the American Beekeepers Federation, C. L. Floyd. 10:00 The Glass Honey Sells In, G. O. Mitchell. 10:30—Using Your American Honey Institute, Harriett M. Grace. 10:50 Cooking Time, Chessie Shelton. 11:10 Bee Stings and Arthritis, Prof. F. E. Guyton. 11:30 Southern Honey Plants and Honeys, Dr. Harvey B. Lovell. 1:30—Label contest winners, Dr. E. K. Patton. 1:45—Bees Cooperate in Conservation, John D. Haynie. 2:45—Final business meeting.

Eastern Missouri, Clayton, Oct. 2

The regular meeting of the Eastern Missouri Association will be at 7:30 p.m. Tuesday, Oct. 2nd, in the St. Louis County Court House at Clayton. The feature of the evening will be the showing of the film "When Bee Meets Bee." Visitors are cordially invited.

Ray Reinhold, Sec'y.

Wisconsin State, Viroqua, Oct. 24-26

The 78th Annual Convention of the Wisconsin State Association will be in Viroqua Oct. 24-26. Newton Boggs, Chairman of the Southwest District and host has assured a good time and adequate facilities. A group of program planners have been quite busy. Henry Schaefer is chairman and the entire Executive Committee is helping him. There will be competition for the Wisconsin Honey Queen. Henry Piechowski is chairman of the honey queen committee.

North Georgia, Stone Mountain, Oct. 14

The North Georgia Association will hold the October meeting on Sunday, the 14th, 4:00 p.m., at the home of Mr. and Mrs. E. L. Bell, Hambrick Road, Stone Mountain. Bring the ingredients for a hamburger fry. Visitors welcome.

Mrs. James Rochel Jr., Sec'y.

National Honey Week, Oct. 29 through Nov. 3

Your big chance to push honey publicity with displays, sales efforts, and club programs. For advertising material write American Honey Institute, Madison, Wis., or the American Beekeeping Federation, Cannon Falls, Minn.

Mississippi, Oct. 19,
Miss. State College

Tentatively the Mississippi Association will meet at State College, Friday, Oct. 19th in the Alumni Student Building. Program to include Dr. Ellis with a progress report on Nosema research, an address by an out-of-state speaker, panel discussion on marketing, selected films on honeybees.

C. A. Wilson, Sec'y.-Treas.

Westchester County (New York)
New Rochelle, Oct. 21

The Westchester County Association will have its first indoor meeting at the Odd Fellows Hall, 20 Lockwood Ave., New Rochelle, Sunday, Oct. 21st, at 2:30 p.m. Plans will be considered for the "Honey Contest" at the November meeting. Topic for discussion will be "Wintering Your Hives." Let's make it a good turnout. Visitors are welcome. Refreshments at the end of the meeting by the Queen Bees.

Mrs. Alfred Roth
Publicity

Midwestern Association, Oct. 14th, Kansas City

The Midwestern Association will hold its monthly meeting Sunday, Oct. 14th at the home of Mr. Frank McLaughlin, 328 So. Monroe, Kansas City, at 2:30 p.m. General discussion on Fall Preparation of Bees. Movies.

(Turn the Page)

Drawing prize and refreshments. All welcome.

Mrs. William Brite, Sec'y.

Norfolk County (Mass.) Oct. 1, Walpole

The next meeting of the Norfolk County Association will be on Monday evening, Oct. 1, at 8:00 in the Assembly Hall of the Norfolk County Agricultural School, 460 Main St., Route 1A, Walpole. All subsequent meetings of the Association have been tentatively scheduled for the first Monday of each month at the school. All beekeepers and friends are cordially invited.

Betty Ann Fisher
Publicity

Georgia Association, Oct. 15 and 16, Hahira

The Georgia Association will meet in Hahira Oct. 15th and 16th. Registration at 8:00 a.m. There will be a banquet the evening of the 15th. Meeting will adjourn at noon on the 16th. Those attending the Southern Conference in Chattanooga are urged to drop down to Hahira. Hotel or motel accommodations are readily available in Valdosta, 14 miles south of Hahira. Limited accommodations are available in Hahira and anyone desiring to have registrations there should write to Garnett Puett, Jr., Secretary, Georgia Beekeepers Association, Hahira, Georgia.

Middlesex County (Mass.) Oct. 27, Waltham

The first indoor meeting of the fall of the Middlesex Association will be on Saturday, Oct. 27th, at the Waltham Field Station. A banquet will be held for members and guests and member Carl Peckham is chairman of the committee to make arrangements for this meeting.

L. C. Proctor, Sec.

Indiana State, Oct. 27, Indianapolis

The annual convention of the Indiana State Association will be on Saturday, Oct. 27th at Hotel Washington, Indianapolis. The meeting will convene at 9:30 a.m. D.S.T. with a luncheon at 12 noon at the hotel. A versatile program has been prepared which the committee feels will be profitable to all classes of beekeepers.

Gilbert Perigo, Sec'y.

Connecticut Association, Oct. 20, Hartford

The Connecticut Association will have a fall meeting, Oct. 20th, beginning at 10:00 a.m. in the Y.M.C.A., corner of Pearl and Jewel Sts., Hartford. The featured speaker will be Paul L. Holcomb of Lambertville, New Jersey, on Fall and Winter Care of Bees. Samples of honey, comb honey and wax by those attending will be welcome. Lunch will be in the Y.M.C.A. cafeteria. Out of state visitors are welcome.

Philemon J. Hewitt, Jr.,
Publicity

Berks County (Pa.) Oct. 16, West Leesport

The Berks County Association will hold its fall meeting on Tuesday, Oct. 16th, at 8:00 p.m., in the Ontelaunee High School, West Leesport, on route 122, about nine miles south of Reading. W. W. Clarke, Jr., Extension Specialist, Pennsylvania State University, will speak. The program will also include a film.

Samuel B. Althouse, Sec'y.

Florida State, Oct. 18 and 19, Clearwater

The Florida State Association will have a fall meeting Oct. 18th and 19th in Clearwater on Florida's Gulf Coast. We are expecting a large attendence to hear the many fine speakers from many parts of the country who will be on our program. Alan Root will be the toastmaster at the banquet at which time the 1957 Florida Honey Queen will also be selected. Anyone planning to attend should make reservations at the Gray Moss Inn, Clearwater, Florida.

F. A. Robinsin, Sec'y

Manitoba Association, Nov. 20 and 21, St. James

The Annual Meeting of the Manitoba Association will be on Tuesday and Wednesday, Nov. 20th and 21st, at the Airport Hotel, St. James. This will be the 50th annual meeting and convention and the directors hope that many Manitoba beekeepers and others interested will be there to make our Jubilee event a memorable occasion. Program arrangements are still in their infancy. When the program is ready a copy will be sent to you. I would appreciate your letting me know if you plan to attend and I will be glad to help in arranging for your visit. The Annual Meeting of the Manitoba Co-operative Honey Producers, Ltd. will be held in conjunction with the beekeepers convention. You are cordially invited.

D. R. Robertson, Sec'y.-Treas.
Winnipeg

Illinois State, Springfield, Nov. 3 and 4

The Illinois State Annual Meeting will be in Springfield, at the St. Nicholas Hotel on Nov. 3rd and 4th, Saturday and Sunday, which should allow more beekeepers to attend than have come in the past.

Montana State, Nov. 30-Dec. 1, Livingston

The Montana State Convention will be held in the Masonic Temple Building, Nov. 30th and Dec. 1st at Livingston. December 2nd will be a wild animal and scenic tour into Yellowstone Park. There will be special entertainment for the ladies attending the convention in the Library room of the Masonic Building. A banquet will be served Nov. 30th. An invitation is extended to all who can come.

Mrs. O. R. Burdett
Sec.-Treas.

In Memoriam

David Dunavan

David Dunavan, 61, associate professor of entomology and zoology and a member of the Clemson College faculty since 1926, died suddenly in Montreal, Canada, August 22, following a heart attack. Professor Dunavan, accompanied by Mrs. Dunavan, was in Montreal to attend the International Congress of Entomology.

He was a former resident of Canada and had done research work in Cuba. He joined Clemson as an assistant professor of entomology and zoology September 19, 1926, and was

promoted to associate professor in February, 1943.

A native of Lakefield, Minn., Professor Dunavan attended Montreal State College from 1919 to 1921 and graduated from Oregon State College in 1924 with a Bachelor of Science in entomology. He received a Master of Science degree from Iowa State College in 1928 and studied a year toward a doctorate at Cornell University.

Mr. Dunavan had been teaching beekeeping and doing some research in the field of beekeeping at Clemson College for many years. He was very active in the Southern Beekeepers' Conference and in the problems of the South Carolina Beekeepers.

E. B. Wedmore

Mr. E. B. Wedmore, one of the foremost authorities on bees and beekeeping for the British Isles, died on June 20. Mr. Wedmore wrote the 400 page book "Manual of Beekeeping" which was not too long ago revised. His book on hive ventilation is also an authority, and he wrote extensively for his nation's bee journals.

Show Them How

Part of the function of any beekeepers' association is educational and the best way to teach is to show members how to do things. Here the members of the Apicultural Society of Rhode Island watch Wallace R. Wilder, Beekeeping Director for Providence County, install package bees at a meeting at Edwin J. Knight's orchard, Greenville, R. I. The Rhode Island Apicultural Society is good at this sort of thing. Members also learn from contests aimed at demonstration like "the first to find the queen" or the first to "get the smoker going." And the possibilities are limitless.

Editorial . . .

World Demand for Honey Exceeds Supply

So says R. B. Willson of the Honey Industry Council. He takes a look into the future in a comprehensive article in Gleanings (December 1955) aimed mainly at this year but embracing the years ahead. He thinks the honey dealer and packer are past the day when they can sit back and not worry. Their honey supply was always in the cans stored in the beekeepers' warehouse waiting for the buyer to offer his price and get it when he wanted it.

But, today, the situation is changed. The dealers and packers face a world market that exceeds the supply. So they have to bid for the honey; and the producers, at present, if they don't like what they are offered can get away from distress under government support protection. This in turn temporarily reduces the supply and tends to keep the market firm and even to advance prices until the honey all gets out of hiding and the crop is gone, with only small carry over. No group can get the best of any other.

Two factors here at home work to our advantage and will continue to do so. Our population is growing rapidly. There has been an enormous crop of babies and daddy or mummy or both are making good money. We continue to grow at the rate of 2,000,000 a year. Now too we have continuous honey promotion. The steady performance of the American Honey Institute is paying off. The Federation marketing efforts are paying off. So the future is bright. Let's keep it that way.

Freedom

Many think of our "freedom" in this country as the right to do just as we please, when we please, and as we please. One man on an island can do just that. But he usually is terribly lonesome. Many people on one spot of ground can only do as they please when the other fellow doesn't object. Millions in one country can do as they please only with due respect to the common welfare. So "freedom" has many limitations.

But here our one great monopoly is the incentive our orderly freedom gives us for a full rein to human ingenuity. As C. H. Greenwalt, President of DuPont, says, "Here we have a monopoly in truth unmatched anywhere on earth. Because of it, our experiment in government has succeeded beyond the wildest dreams of its early proponents."

Behind this concept of freedom lies most of the success of our life, most of the progress of our industry.

Our Automobiles

All commercial honey producers own an automobile whether they are full time operators or part time. This includes smaller beekeepers who have one or more outyards. And this totals up to a lot of automobiles. It includes one truck at least or something that serves as a truck (trailer or trunk box) and the family car; sometimes more than one truck for the real big boys.

Every once in a while some driver gets hit and his car or truck is damaged. We have had this experience a number of times. Occasionally some beekeeper ends up in the hospital for a time because of a car accident.

1955 figures from the Automobile Manufactures Association may give us some cause for thought. Sixty-one million registered motor vehicles and 72 million licensed drivers pile up more than 560 billion miles a year, an average of about 9,200 miles per vehicle and 7,800 miles per driver. By 1965 registrations and travel will increase more than 33 percent. To correct road inadequacies, $101 billion will be needed for highways during the next 10 years.

Add the following to the above figures: still only 71 percent of families own an automobile; insurance premiums paid by car owners exceed $4,165,000,000 a year; a fourth of the price of the car is taxes; over 4,000,000 cars were scrapped in 1954; $12,500,000,000 dollars was extended in auto credits in 1954; over 1,500,000 trucks (maybe yours) are over 12 years old.

Staggering? Yet beekeeping, outside of the back yard, depends on transportation. The industry's growth almost parallels transportation. Remember when all but main roads became mud roads after a rain? Now sixty-two percent of rural roads are surfaced. We usually can get to the outyard.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912 AND MARCH 3, 1933 of American Bee Journal, published monthly at Hamilton, Illinois, September 1, 1956.

STATE OF ILLINOIS

County of Hancock—ss.

Before me, a notary public in and for the state and county aforesaid, personally appeared M. G. Dadant, who, having been duly sworn according to law, deposes and says that he is the business manager of the American Bee Journal and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the name and addresses of the publishers, editors, and business managers are:
Publishers: American Bee Journal, Hamilton, Illinois.
Editors: G. H. Cale, Hamilton, Ill., M. G. Dadant, Hamilton, Ill., A. Larson, Hamilton, Ill., R. A. Grout, Hamilton, Ill.
Business Manager: M. G. Dadant, Hamilton, Illinois.

2. That the owners are Dadant & Sons, Inc., Hamilton, Ill.

3. That the known bondholders, mortgagees and other security holders owning or holding one per cent or more of the total amount of bonds, mortgages, or other securities are:
Stockholders:
H. C. Dadant, Hamilton, Ill.
M. G. Dadant, Hamilton, Ill.
L. C. Dadant, Hamilton, Ill.
R. H. Dadant, Hamilton, Ill.
C. C. Dadant, Hamilton, Ill.
V. M. Dadant, Hamilton, Ill.
C. S. Dadant, Hamilton, Ill.
R. A. Grout, Hamilton, Ill.
Louisa G. Saugier, Hamilton, Ill.
Adelaide F. Larson, Hamilton, Ill.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears and upon the books of the company as trustees or in any other fiduciary relation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

(Signed) M. G. Dadant,
Business manager American Bee Journal.

Sworn to and subscribed before me this 23rd day of August, 1955.

Minnie King, Notary Public
My commission expires March 25, 1958

The Market Place . . .

Copy for this department must reach us not later than the tenth of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

Rate of Classified advertising — 16 cents for each word, letter, figure or initial, including the name and address. Minimum ad, ten words.

As a measure of precaution to our readers we require reference of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on comb must guarantee them free from disease or certificate of inspection from authorized inspector. The conditions should be stated to insure that buyer is fully informed.

BEES AND QUEENS

MOUNTAIN GRAY CAUCASIAN queens—$1.25. After June 1st, $1.00. Elbert S. Childs, 3221 Garden Dr., Knoxville 18, Tenn.

IT PAYS TO REQUEEN. Old queens in your hives cost a lot through lost production. Young queens pay for themselves and give a good profit besides. One super of honey difference in favor of the young queens is not too much to expect in most any location. We can furnish the best select young Italian laying queens from now until Oct. at $1.00 each; 10, $9.00; 25, $20.00. Prompt shipment. No disease. Air Mail postpaid. H. C. Short, Fitzpatrick, Ala.

PACKAGE BEES and QUEENS for 1957. Two good races — Dadant's Starline Hybrids and our regular strain. Alamance Bee Company, Graham, N. C.

FOR SALE

ROYAL JELLY in capsules. Each contains 10 mg. Royal Jelly, 5 mg. Vitamin B, 5 mg. Calcium Pantothenate. Boxes of 30. $1.50 to beekeepers. Retails for $3.00. Prairie View Honey Co., 12303 Twelfth St., Detroit 6, Michigan.

FOR SALE—Royal Jelly and The Little Queen Royal Jelly Extractor. Royal Jelly Enterprises, 1017 Los Carneros Avenue, Napa, California.

APPROXIMATELY 60 colonies Italian bees heavy with honey. No disease. One story, $7.50. With super, $10.00. Two story, $12.50. O. O. Lynn, 3505 South Main, Houston, Tex.

BEE OUTFIT FOR SALE for less than 1 years sales. Can be operated for honey or package bees, in Alabama. Box O.K., c/o American Bee Journal.

ABOUT EIGHT HUNDRED ten-frame colonies of bees, truck and extracting equipment. Several hundred deep supers. Reason for selling, sickness. K. M. Hutteball, 239 Flume St., Boise, Idaho.

FOR SALE—100 hives of bees with honey to winter, at $9.00 each. 200 shallow extracting supers with 9 drawn combs, at $1.50 each. 100 tops at $1.00 each. 100 bottoms at 90c. 125 cans of nice sweet clover honey. Will sell all or any part. T. E. Woodrum, Route No. 2, Neosho, Mo.

300 COLONIES of bees in standard hives. Recently reconditioned and repainted. Also four-frame power extractor, honey tank, 160 new frame type feeders, locations, etc. No known disease. Recently inspected. All for $3000. Don L. Mulvihill, 1006 Rio Grande, Pasadena, Calif.

SUPERS, COVERS, BOTTOMS — All good grade wood. Supers $1.00 each. 10-frame covers and bottoms (4 cleat) 75c each KD.; nailed 90c each. Prices for shallow supers (2 cleat) covers and bottoms, 8-frame items, and queen mating hives by request. Arthur O. Johanson, 11360 Redwood Highway, Healdsburg, California.

HONEY and BEESWAX WANTED

WE ARE PAYING top market prices for beeswax. Ship to any one of our plants: Sioux City, Iowa; Lima, Ohio; Rogers Texas; Waycross, Georgia; Anaheim, California. Sioux Honey Association, 509-11 Plymouth St., Sioux City, Iowa.

WANTED—Extra white and light amber honey. Let us ship you the containers. Sell us your honey for CASH on delivery. The Hubbard Apiaries, Manufacturers of Bee Supplies and Comb Foundation, Onsted Mich.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 2613 South Yates Ave., Los Angeles 22, Calif.

WANTED—Honey and beeswax. State what you have and price. Roscoe F. Wixson Dundee, N. Y.

WRITE FOR SHIPPING TAGS and current quotations on rendered beeswax. Any amount from one pound up bought. If you have 25 pounds or more, save 25% by letting us work it into foundation for you. Walter T. Kelley Co., Clarkson, Ky.

WANTED—Honey, amber or light, in any amount. Send sample for prices. Holland Honey Cake Co., Holland, Mich.

WANTED—Clover honey. Grade white or better. Clarence W. Vogel, Plymouth Ohio.

COMB HONEY WANTED from New York Ohio, Pennsylvania. Window cartons and shipping cases not wanted. Cash at your honey house. Henry D. Masterson, 73 Nichols Street, Rochester, New York.

HONEY WANTED—ALL GRADES—Carload or less. Send sample. Mel Olson Honey Co., 5201 Douglas Drive, Minneapolis 22 Minn.

HONEY FOR SALE

WHITE CLOVER HONEY in sixties. Ralph Gamber, 910 State, Lancaster, Pa.

FOR SALE—White clover honey in 60-lb. cans. Filtered and ready for baker or bottling trade. Also, will pack under your label. Baxter Honey Farms, W. E. Baxter, Blair, Nebraska.

HONEY FOR SALE—All grades, 60-lb. cans or 55-gal. drums. Samples on request. Mel Olson Honey Co., 5201 Douglas Drive, Minneapolis 22, Minn.

WANTED

WANTED—Several hundred colonies and other beekeeping equipment. Will trade modern suburban home near Houston, Texas. David Rennie, 914 West Main, Norman, Oklahoma.

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Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.

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SEEDS AND TREES

HONEY PLANTS our specialty. Catalogue on request. Pellett Gardens, Atlantic Iowa.

MISCELLANEOUS

PLAIN or WAVYWIRED foundation. Beeswax rendered and purchased. Wax Workers, Ithaca, N. Y.

KNOW interesting facts about the bees of India through the INDIAN BEE JOURNAL, published in English by the Bhupen Apiaries (Himalayas), Ramgarth, Dist. Nainital, U.P., India, and obtainable from them. Subs. Rs9/-, or S.15/-, or $2.25 yearly. Sample copy, post free, Rs. 1/-, or S.2/6 or 40c (International money order). Payment in mint postage stamps of your country accepted.

BEES removed from house or tree to hive without touching either house or bees. Bees will then move honey into hive. Save property, honey and bees with my method. Send $2 for details. Satisfaction guaranteed. George Hawkins, Rt. 1, Lawson, Mo.

Make your own FACTORY TYPE HIVES and SUPERS with SAMSON CORNER JOINTS. Only a bench saw and hand tools required. Our low cost Copyrighted BLUE PRINTS and INSTRUCTIONS cover everything and can save you many dollars. Write for full details. E. R. Taylor, Malcom, Iowa.

RANCH MAGAZINE—Do you find it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information of range sheep than any magazine published. Subscription $1.00. Hotel Cactus, San Angelo, Texas.

WANTED—Custom extracting, light honey live bees, used equipment. Would trade money-making automatic popcorn vending machines for bees or honey. Prof. Luerssen, 1104 Maplewood Dr., Normal, Ill.

TRADE—100 each metal tops, bottoms, hive bodies, supers. 85% ten-frame. 2000 new deep frames not nailed. All for 3000 lbs. clover honey. Fred Wyatt, Oak Grove, Mo.

Crops and Market

by M. G. Dadant

Final Crop for 1956

By this time, both the late crop of alfalfa and the fall crop of the central areas are harvested. In the central areas particularly, the fall crop has been a disappointment on account of dry weather generally and most beekeepers will be happy to have their hives full of honey for winter stores. Alfalfa areas perhaps were a little more fortunate.

We have been surprised at the very few states which report as much honey as last year.Those reporting more than last year, although in no case over 25% more (except in the extreme case of Georgia which had a drought failure last year) are as follows: New Jersey, Pennsylvania, Illinois (in spotted areas), Georgia, (failure in '55), Tennessee, Louisiana, Arkansas, and Mississippi. In the western areas, Wyoming reports 25% larger crop, Idaho at least that much and Washington and Oregon are definitely on the top side.

Checking the usually heavy producing states, apparently southern California is better than last year although the orange crop was short. The desert made up for this. However, in the northern areas they were producing under, so California will be lucky to have 90% of last year.

In Montana, some producers report as much as last year but the average should not be over 80% to 90% of last year and in the states of Minnesota, the Dakotas, Nebraska, Kansas, Colorado, and Utah very definitely the crop will be short of a year ago. This also holds true of eastern and central western areas with such states as Michigan and Wisconsin reporting perhaps not over 50% of 1955.

It would be our notion that the entire crop for the United States for 1956 will range at least 15% under last year. In the Canadian provinces, the western provinces have slightly better than last year but this is made up by a shortage of crop for Ontario, Quebec, and the maritime provinces so that Canada will not range much above the 1955 crop.

In the alfalfa areas, of course, the quality of the honey is as usual—unsurpassed. There may be some slight mixture on account of slow flows. However, in the central western areas, on the whole, there have been very slow flows and a tendency for a mixture of the clover crop with other sources so that there will probably be no water white honey and perhaps a slight tinge of amber. In other areas, the quality ranges about as usual.

Sales of Honey

On the whole, in the Central West and in the East we find sales of honey running on white from 14c to 15c per pound and amber from 11c to 13c per pound and on bulk comb from 19c to 21c per pound.

Buyers are not yet very active and are holding down their prices as much as possible. We understand that much honey has moved in the extreme western areas as low as 12½c to 13½c per pound and there is a tendency on the part of the buyer to hold off buying unless the honey can be secured at that price. Perhaps the producers seem to be a little more anxious than usual to sell. However, many are not impatient and are waiting for a settling point for the market. We have heard of one lot moving out of Montana at 15¼c per pound and a number of lots in central eastern areas for good white honey at 15c to 16c per pound with as high as 21c for bulk comb.

Prospective Prices

Naturally producers are quite varied in their idea of what the proper price should be—some running as high as 17c per pound for white, to 14c for amber and some being satisfied with the price of 14c for white and 1c to 2c less for amber.

Two of our reporters stated that there was a limit beyond which the market would not absorb the honey. One Colorado producer stated that the "proper" price is whatever the market will support. Another central western buyer of honey stated that he did not feel he could pay more than 15c per pound delivered, cans returned, and continue with the same volume of sales as he had been enjoying in the past.

While there is a possibility that we will not be able to get a market in foreign countries for quite the volume of honey as a year ago and perhaps not in Canada, it is not to be denied that the shortage of crops in this country will make up for most of the shorter sales both in Canada and foreign countries. We do not see why Canada should not need more honey this year if their volume of production is only equal to a year ago.

Throughout the World "ROOT" is Synonymous with Quality

In German: Qualitat
In French: Qualite
In Spanish: Calidad

Language is no Barrier to the Wide Reputation of Root Quality . . .

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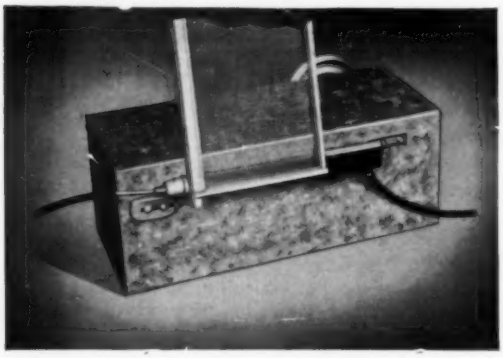

1. Uncapping Knives

The famous Root uncapping machine shown here will uncap three to five combs per minute. The steam heated blade vibrates back and forth at the rate of 700 to 900 strokes per minute and makes a clean cut rapidly. Root dealers also feature steam, electric, and plain hand operated uncapping knives at economical prices.

2. Extractors

Whether you choose a 2 or 45 frame Root extractor, all are built for rugged durability and maximum efficiency. Combs are thoroughly extracted and there never is a film of honey remaining in the cells. The lever control provides floating acceleration and allows the extractor to gain speed without damaging the combs. Write for free folder on extracting equipment called, "More Honey Through Modern Extracting Equipment."

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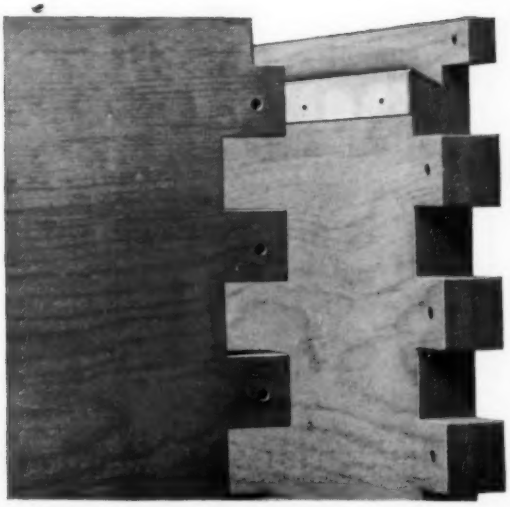

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Ever split the dovetails when nailing up a hive? Ever have to straighten up nails that persist in going in the wrong way? With Lewis-Dadant Hives with **bored dovetails** nails go straight in, right where they belong, — and quickly. No splits; no slants. Add all the rest of the items to consider — rot-proofed wood, V-shaped frame rests, insulating-ventilating cover, Lev-L-Drain bottom-board — and you get a hive for long life and wear. That EXTRA SOMETHING, you can't afford to be without.

For EVERLASTING Combs—

Use Dadant's Gilt-Edge or Crimp-wired Foundation

They are the least expensive combs you can get and they will carry a full honey load without damage; and give you more brood and more bees for many years.

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